

**Department of
Veterans Affairs**

Memorandum

Date: MAY 11 2017

From: Deputy Under Secretary for Health for Operations and Management (10N)

Subj: INFORMATION BULLETIN: Appropriate Use of Proton Therapy for Radiation Therapy Treatment (VAIQ 7787781)

To: Network Directors (10N1-23)
Facility Directors (00)

1. Radiation therapy using charged particles, like protons, delivers ionizing radiation with greater precision and less dose to normal tissues. Controlling the particle energy limits dose superficial to the targeted tumor, while allowing the proton beam to be stopped at a designed depth. As a result, proton therapy may be preferred when the sparing of normal tissue offers a clinical benefit, which cannot be obtained using photon irradiation.

2. Examined clinically since the 1980s, proton beam therapy has potential benefits, which must be examined case-by-case. Determining both the risk of normal tissue injury and the ability to deliver a therapeutic dose to the tumor each in comparison to advanced photon therapies has frequently demonstrated an advantage for proton beam therapy in those clinical presentations listed below. The following have been identified by the American Society for Radiation Oncology (ASTRO) as Group 1 indications for proton therapy:

- Ocular tumors;
- Tumors involving the base of the skull;
- Tumors adjacent to the spinal cord where photon therapy would exceed dose tolerance;
- Treatment of hepatocellular cancer with hypo-fractionation;
- Pediatric patients requiring high radiation dose for curative therapy; and
- Certain patients with genetic predisposition toward increased radiation injury.

3. The appropriate examination and selection of proton therapy for a Veteran diagnosed with one of the above adult presentations will be decided by a Veterans Health Administration (VHA) attending radiation oncologist in collaboration with a proton therapy specialist.

4. Although generally not supported by current clinical evidence, proton therapy research is in progress for the broad spectrum of clinical presentations. The following is listed as ASTRO Group 2 indications:

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- Malignancies of the head and neck;
- Thoracic malignancies;
- Abdominal malignancies;
- Genitourinary and gynecological malignancies.

5. It is VHA's position that proton therapy for ASTRO Group 2 indications should be conducted as a part of a clinical trial. As such, proton therapy will not be deemed appropriate for the routine treatment of Veterans diagnosed with ASTRO Group 2 presentations. Specifically, proton therapy will not be used for organ-confined adenocarcinoma of the prostate (OCAP). Preferred treatment modalities for OCAP include 3-D conformal external beam irradiation, intensity modulated radiation therapy, stereotactic body radiotherapy, brachytherapy, or surgical resection.

6. In 2013, after reviewing all available medical literature, the VHA Health Services Research & Development Service's Evidence-based Synthesis Program agreed with ASTRO that clinical evidence did not support a general preference for proton therapy for Group 2 presentations. Today, on-going clinical trials are comparing proton versus photon therapy for breast and prostate cancers, tumors of the head and neck, esophagus and lung. VHA, through its National Radiation Oncology Program Office, will closely monitor these and other on-going investigations for the potential to improve cancer related outcomes for our Veterans through proton beam therapy.

7. For additional information or questions, please contact Michael P. Hagan, M.D., Ph.D., National Director, Radiation Oncology Program (10P4H), at michael.hagan@va.gov or Wendy Kemp at wendy.kemp@va.gov or by phone at (804) 675-6270.


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